Barbour received his law degree from the University of Mississippi School of Law in 1973. He and his wife Marsha have been married 35 years and have two adult sons, both of whom are married. The Barbour's have two grandchildren, Adyn Sterling Barbour, born December 22, 2005, and Chloe LeFlore Barbour, born May 18, 2007.

Governor Barbour has served as a deacon in the First Presbyterian Church of Yazoo City.

Before his election, Governor Barbour founded and formerly served as Chair and CEO of Barbour Griffith and Rogers, which Fortune magazine ranked the nation's top lobbying firm.

From 1993 to 1997, he served two terms as Chairman of the Republican National Committee, including during the 1994 elections when Republicans won GOP control of both houses of Congress for the first time in forty years and the number of Republican governors rose from 17 to 32.

In the mid-'80's, Governor Barbour advised President Ronald Reagan for nearly two years as Director of the White House Office of Political Affairs.